



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,787	04/16/2004	Mariam N. Maghribi	IL-11206	9076
7590 Eddie E. Scott Assistant Laboratory Counsel Lawrence Livermore National Laboratory P.O. Box 808, L-703 Livermore, CA 94551		04/05/2007	EXAMINER HELLER, TAMMIE K	
			ART UNIT 3766	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/05/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/825,787	MAGHRIBI ET AL.
Examiner	Art Unit	
Tammie Heller	3766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 16 March 2007.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,5,10,11,18,20,24,29,30,35,37 and 50 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,5,10,11,18,20,24,29,30,35,37 and 50 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

1. The amendment filed on March 16, 2007 has been received and considered. By this amendment, claims 1, 11, 20, 30, and 35 have been amended and claims 1, 5, 10, 11, 18, 20, 24, 29, 30, 35, 37 and 50 are now pending in the application.

***Claim Rejections - 35 USC § 112***

2. In view of Applicant's amendments to the claims, the Examiner is withdrawing the rejection under 35 U.S.C. 112, second paragraph, which was made against claim 1 in the previous Office Action.

***Response to Arguments***

3. Applicant's arguments filed March 16, 2007 have been fully considered but they are not persuasive. Regarding the rejection of claims 1, 5, 10, 18, 20, 24, 29, 35, 37, and 50 under 35 USC 102(e) as being anticipated by Fishman, Applicant argues that Fishman fails to disclose each and every claim element. Applicant argues that Fishman fails to disclose an electrically conductive media contained in at least one microchannel, at least one electronic circuit line that is capable of being maintained when the polymer substrate is stretched, or the step of filling the microchannel with the conductive media. The Examiner interprets an electrically conductive media to be any media which is capable of conducting energy. Therefore, the bioactive agents 44 present within the microchannels of Fishman include ions, and therefore act as an electrically conductive media (see paragraph 54). As is well known in the neurological art, when neuronal cells are seeded on a substrate and supplied with the appropriate growth factors, they are

capable of forming an interconnected network of neurites that act as electrically conductive circuits to relay information. Therefore, the neuronal cells of Fishman act as electrically conductive circuit lines on the substrate. Furthermore, the pattern of the substrate, as shown in Figure 3, would enable the substrate to be stretched without causing any damage to the neuronal cells cultured within.

4. Applicant's arguments with respect to the rejection of claims 1, 11, 20, 30, and 35 under 35 USC 103(a) as being unpatentable over Albert in view of Fishman have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 5, 10, 18, 20, 24, 29, 35, 37 and 50 are rejected under 35 U.S.C. 102(e) as being anticipated by Fishman et al. (U.S. 2003/0032946), herein Fishman. Regarding claims 1, 20, and 35, Fishman discloses a method and apparatus for controlling cell growth that includes a solid stretchable polymer body made entirely of PDMS, at least one microchannel in the polymer body, a conductive media in the microchannel which forms at least one circuit line (see Figure 3 and paragraph 69).

7. Regarding claims 5 and 24, it can be seen from Figure 3 of Fishman that the circuit line is sawtooth shaped with rounded corners.
8. Regarding claims 10, 29, and 37, Fishman discloses that the stretchable polymer body is made entirely of cast PDMS (see paragraph 69).
9. Regarding claims 18 and 50, Fishman discloses that the stretchable polymer body may be a microcable (see paragraph 63).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 11, 20, 30, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albert in view of Rogers et al. (U.S. Patent No. 6,337,761), herein Rogers. Regarding claims 1, 20, and 35, Albert discloses a mounted display assembly that includes a stretchable polymer body 140 and at least one circuit line 123 operatively connected to said stretchable polymer body which extends in the longitudinal direction (see Figure 3A). It can be seen in Figure 3A that the at least one circuit line 123 includes a longitudinal component that extends in the longitudinal direction and an offset component that is at an angle to the longitudinal direction. However, Albert fails to disclose that the stretchable polymer body is made entirely of PDMS. Rogers discloses an electrophoretic display that utilizes a solid PDMS polymer

Art Unit: 3766

body substrate in order to provide appropriate mechanical properties to the display apparatus (see col. 5, ln. 30-55). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize a solid PDMS polymer body substrate, as taught by Rogers, in the invention of Albert in order to optimize the mechanical properties of the device of Albert.

12. Regarding claims 11 and 30, Albert discloses that the at least one circuit line comprises conductive ink (see Paragraph 31, ln. 1-6).

***Conclusion***

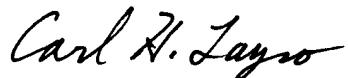
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammie Heller whose telephone number is 571-272-1986. The examiner can normally be reached on Monday through Friday from 7am until 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Layno can be reached on 571-272-4949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tammie K. Heller  
Patent Examiner  
Art Unit 3766



Carl Layno  
Acting SPE  
Art Unit 3766

CARL LAYNO  
PRIMARY EXAMINER